

Art Unit: 2142

CLMPTO

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CLAIM 1 CANCELLED

--2. A system for rapidly acquiring a spreading code used in a code division multiple access (CDMA) system, comprising:

a code generator for generating a plurality of P long codes, where P is a number of long codes in the plurality of long codes, with each long code having a length N chips, with
5 each long code different from the other long codes in the plurality of long codes;

a transmitter, coupled to said code generator, for transmitting, over a communications channel using radio waves, the plurality of long codes at a plurality of phase angles, respectively, on a carrier signal, with each phase angle in the plurality of phase angles different from other phase angles in the plurality of phase angles; and

.0 an acquisition circuit, coupled to the communications channel, for acquiring from the communications channel using said phase-acquisition circuit, the plurality of long codes, respectively, by searching, in parallel, N/P chips of each long code of the plurality of long codes.

3. The system as set forth in claim 2, wherein said acquisition circuit acquires from the communications channel using the phase-acquisition circuit, the plurality of long codes from the plurality of phase angles, respectively, of the carrier signal by searching, in parallel, N/P chips of each of the plurality of long codes.

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4. The system of claim 3 wherein said transmitter transmits the plurality of long codes at the plurality of phase angles, respectively, on the carrier signal, with each phase angle in the plurality of phase angles representing an M-ary phase scheme.

5. The system of claim 4, wherein said acquisition circuit acquires from the communications channel using the phase-acquisition circuit, the plurality of long codes, respectively, of the carrier signal by searching, in parallel, N/P chips of a first long code and a second long code.

6. The system of claim 2, wherein said generator generates the plurality of long codes from a multiplicity of short codes, with each short code different from other short codes and each short code having a length less than N chips, with a first short code thereby embedded in a first long code and a second short code embedded in a second long code.

7. The system of claim 6, wherein said acquisition circuit acquires, from the communications channel using the phase-acquisition circuit the first short code embedded in the first long code and the second short code embedded in the second long code, from the first phase angle and the second phase angle, respectively, by searching, in parallel, N/P chips of the first short code and the second short code.--

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